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SEQUENCE LISTING

<110> The University of Queensland

<120> Novel omega conotoxin peptides

<130> 2338740/MJC

<140> US 09/679490

<141> 1999-04-16

<150> PCT/AU99/00288

<151> 1999-04-16

<150> PP2989/98

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<150> PP8419/99

<151> 1999-02-01

<160> 44

<170> PatentIn version 3.0

<210> 1

<211> 6

<212> PRT

<213> conus catus

<400> 1

Ser Gly Thr Val Gly Arg  
1 5

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**TECH CENTER 1600/2900**

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<210> 2

<211> 6

<212> PRT

<213> conus magus

<400> 2

Ser Lys Leu Met Tyr Asp  
1 5

<210> 3

<211> 6

<212> PRT

<213> synthetic

<400> 3

Ser Arg Leu Met Tyr Asp  
1 5

<210> 4

<211> 6

<212> PRT

<213> synthetic

<400> 4

Asp Arg Leu Met Tyr Asp  
1 5

<210> 5

<211> 27

<212> PRT

<213> conus catus

<400> 5

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

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<210> 6

<211> 27

<212> PRT

<213> synthetic

<400> 6

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Arg	Leu	Met	Tyr	Asp	Cys	Cys
1				5					10					15	
Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys					
			20					25							

<210> 7

<211> 27

<212> PRT

<213> synthetic

<400> 7

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Asp	Arg	Leu	Met	Tyr	Asp	Cys	Cys
1				5					10					15	
Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys					
			20					25							

<210> 8

<211> 25

<212> PRT

<213> conus magus

<400> 8

Cys	Lys	Gly	Lys	Gly	Ala	Lys	Cys	Ser	Arg	Leu	Met	Tyr	Asp	Cys	Cys
1				5					10					15	
Thr	Gly	Ser	Cys	Arg	Ser	Gly	Lys	Cys							
			20					25							

<210> 9

<211> 26

<212> PRT

<213> conus magus

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<400> 9

Cys Lys Gly Lys Gly Ala Pro Cys Arg Lys Thr Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Gly Arg Arg Gly Lys Cys  
20 25

<210> 10

<211> 27

<212> PRT

<213> conus geographus

<220>

<221> misc\_feature

<223> Pro at positions 4, 10 and 21 is 4-Hyp

<400> 10

Cys Lys Ser Pro Gly Ser Ser Cys Ser Pro Thr Ser Tyr Asn Cys Cys  
1 5 10 15

Arg Ser Cys Asn Pro Tyr Thr Lys Arg Cys Tyr  
20 25

<210> 11

<211> 18

<212> DNA

<213> conus catus

<400> 11

agcggcaccg taggtaga

18

<210> 12

<211> 382

<212> DNA

<213> conus catus

<220>

<221> CDS

- 5 -

&lt;222&gt; (10) .. (228)

&lt;400&gt; 12

atcatcaaa atg aaa ctg acg tgt gtg gtg atc gtc gcc gtg ctg ctc ctg 51  
 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu  
 1 5 10

acg gcc tgt caa ctc atc aca gct aat gac tcc aga ggt acg cag aag 99  
 Thr Ala Cys Gln Leu Ile Thr Ala Asn Asp Ser Arg Gly Thr Gln Lys  
 15 20 25 30

cat cgt gcc ctg agg tcg gac acc aaa ctc tcc atg tcg act cgc tgc 147  
 His Arg Ala Leu Arg Ser Asp Thr Lys Leu Ser Met Ser Thr Arg Cys  
 35 40 45

aag agt aaa gga gca aaa tgt tca aag ctt atg tat gac tgc tgc agc 195  
 Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys Ser  
 50 55 60

ggc tct tgc agc ggc acc gta ggt aga tgt ggc tgatccggcg cttgatctcc 248  
 Gly Ser Cys Ser Gly Thr Val Gly Arg Cys Gly  
 65 70

cccttctgtg ctctatcctt ttctgcctga gtccctccta cctgagagtg gtcataaacc 308

actcatcacc taccctctgg aggtctcaaa gaactacttg aaataaagcc gcttgcaaaa 368

aaaaaaaaaa aaaa 382

&lt;210&gt; 13

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; conus catus

&lt;400&gt; 13

Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Ala  
 1 5 10 15

Cys Gln Leu Ile Thr Ala Asn Asp Ser Arg Gly Thr Gln Lys His Arg  
 20 25 30

Ala Leu Arg Ser Asp Thr Lys Leu Ser Met Ser Thr Arg Cys Lys Ser  
 35 40 45

Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys Ser Gly Ser  
 50 55 60

Cys Ser Gly Thr Val Gly Arg Cys Gly  
 65 70

- 6 -

<210> 14

<211> 27

<212> PRT

<213> conus catus

<400> 14

Cys	Arg	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys
		20						25		

<210> 15

<211> 27

<212> PRT

<213> conus catus

<400> 15

Cys	Lys	Ser	Lys	Gly	Ala	Arg	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys
		20						25		

<210> 16

<211> 27

<212> PRT

<213> conus catus

<400> 16

Cys	Lys	Ser	Lys	Gly	Ala	Gln	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys
		20						25		

<210> 17

<211> 27

<212> PRT

<213> conus catus

- 7 -

<400> 17

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Ala Val Gly Arg Cys  
20 25

<210> 18

<211> 27

<212> PRT

<213> synthetic

<400> 18

Cys Lys Ser Lys Gly Ala Lys Cys Asp Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 19

<211> 27

<212> PRT

<213> synthetic

<400> 19

Cys Lys Tyr Lys Gly Ala Lys Cys Ser Arg Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 20

<211> 27

<212> PRT

<213> synthetic

<400> 20

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Ala Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

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<210> 21

<211> 27

<212> PRT

<213> synthetic

<400> 21

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Thr	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys
			20					25		

<210> 22

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Xaa at position 5 is D-alanine

<400> 22

Cys	Lys	Ser	Lys	Xaa	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys
			20					25		

<210> 23

<211> 28

<212> PRT

<213> synthetic

<400> 23

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5				10						15	

Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys	Tyr
			20					25			



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<210> 24

<211> 27

<212> PRT

<213> synthetic

<400> 24

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5					10					15	
Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys					
			20					25							

<210> 25

<211> 28

<212> PRT

<213> synthetic

<400> 25

Tyr	Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys
1				5					10					15	
Cys	Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys				
			20					25							

<210> 26

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Cysteine at position 1 is acylated

<400> 26

Cys	Lys	Ser	Lys	Gly	Ala	Lys	Cys	Ser	Lys	Leu	Met	Tyr	Asp	Cys	Cys
1				5					10					15	
Ser	Gly	Ser	Cys	Ser	Gly	Thr	Val	Gly	Arg	Cys					
			20					25							

<210> 27

- 10 -

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Leu at position 12 is L-norleucine

<400> 27

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 28

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Leu at position 12 is L-norleucine

<400> 28

Cys Lys Ser Lys Gly Ala Lys Cys Ser Arg Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 29

<211> 27

<212> PRT

<213> synthetic

<220>

- 11 -

<221> misc\_feature

<223> Leu at position 12 is L-norleucine

<400> 29

Cys Lys Tyr Lys Gly Ala Lys Cys Ser Arg Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 30

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Xaa at position 12 is L-O-methyl homoserine

<400> 30

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Xaa Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 31

<211> 27

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Methionine residue at position 12 is oxidised to its sulfoxide

<400> 31

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Xaa Tyr Asp Cys Cys  
1 5 10 15

- 12 -

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 32

<211> 27

<212> PRT

<213> synthetic

<400> 32

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 33

<211> 6

<212> PRT

<213> synthetic

<400> 33

Asp Lys Leu Met Tyr Asp  
1 5

<210> 34

<211> 6

<212> PRT

<213> synthetic

<400> 34

Ser Lys Leu Ala Tyr Asp  
1 5

<210> 35

<211> 6

<212> PRT

<213> synthetic

<220>

- 13 -

<221> misc\_feature

<223> Leu at position 4 is L-norleucine

<400> 35

Ser Lys Leu Leu Tyr Asp  
1 5

<210> 36

<211> 6

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Leu at position 4 is L-norleucine

<400> 36

Ser Arg Leu Leu Tyr Asp  
1 5

<210> 37

<211> 6

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Xaa at position 4 is L-O-methyl homoserine

<400> 37

Ser Lys Leu Xaa Tyr Asp  
1 5

<210> 38

<211> 6

<212> PRT

- 14 -

<213> synthetic

<220>

<221> misc\_feature

<223> Xaa at position 4 is L-O-methyl serine

<400> 38

Ser Lys Leu Xaa Tyr Asp  
1 5

<210> 39

<211> 26

<212> PRT

<213> synthetic

<220>

<221> misc\_feature

<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<400> 39

Cys Xaa Xaa Xaa Gly Xaa Xaa Cys Xaa Lys Leu Xaa Tyr Xaa Cys Cys  
1 5 10 15

Xaa Ser Cys Ser Gly Xaa Val Gly Arg Cys  
20 25

<210> 40

<211> 28

<212> DNA

<213> synthetic

<400> 40

aactggaaga attcgcggcc gcaggaat

28

<210> 41

<211> 23

<212> DNA

- 15 -

<213> synthetic

<400> 41  
atcatcaaaa tgaaactgac gtc 23

<210> 42

<211> 28

<212> DNA

<213> synthetic

<400> 42  
aactggaaga attcgcggcc gcaggaat 28

<210> 43

<211> 27

<212> DNA

<213> synthetic

<400> 43  
atcaaaatga aactgacgtg tgtggtg 27

<210> 44

<211> 26

<212> DNA

<213> synthetic

<400> 44  
gcgttttgat cagccacatc taccta 26